# DEVELOPMENT OF A TOOL TO DESIGN AC HARMONIC FILTER FOR HVDC TRANSMISSION SYSTEM

CHA KWAN HUNG

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# UNIVERSITI MALAYSIA PAHANG

## BORANG PENGESAHAN STATUS TESIS♦

**DEVELOPMENT OF TOOL TO DESIGN AC HARMONIC FILTER FOR HVDC TRANSMISSION SYSTEM**

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Saya **CHA KWAN HUNG (870909-05-5345)**
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| | | |
|---|---|---|
| Ia | - | Line Current |
| I1 | - | Fundamental current |
| Id | - | Direct current |
| Ir | - | Current through resistor |
| IL | - | Current through inductor |
| Ic | - | Current through capacitor |
| Ih | - | Harmonic current |
| If | - | Current through filter |
| Is | - | Current through system |
| \| Ir \| | - | Absolute value of current through resistor |
| Irms | - | RMS current |
| IT | - | Harmonic current factor |
| (IL)h | - | Inductor current at harmonic loading |

| | | |
|---|---|---|
| Vs | - | Voltage supply |
| VL | - | Line voltage |
| V1 | - | Fundamental voltage |
| Vh | - | Harmonic voltage |
| VLh | - | Worst harmonic voltage |
| Vc | - | Voltage across capacitor |
| VL | - | Voltage across inductor |
| Vr | - | Voltage across capacitor |
| Z | - | Impedance |
| ZS | - | System impedance |
| Zf | - | Filter impedance |
| Zt | - | Total impedance |
| Zst | - | Single tuned filter impedance |
| Zhp | - | High-Pass filter impedance |
| Ys | - | System admittance |

| | | |
|---|---|---|
| Yf | - | Filter admittance |
| Yt | - | Total admittance |
| Yst | - | Single tuned filter admittance |
| Yhp | - | High-Pass filter admittance |
| Zf5 | - | The $5^{th}$ filter impedance |
| Zf7 | - | The $7^{th}$ filter impedance |
| Zf11 | - | The $11^{th}$ filter impedance |
| Zf13 | - | The $13^{th}$ filter impedance |
| Zhp | - | The high pass filter impedance |
| Yf5 | - | The $5^{th}$ filter admittance |
| Yf7 | | The $7^{th}$ filter admittance |
| Yf11 | - | The $11^{th}$ filter admittance |
| Yf13 | - | The $13^{th}$ filter admittance |
| Yhp | - | The high pass filter admittance |
| YFA3 | - | The total filter admittance of the 3th harmonic |

| | | |
|---|---|---|
| YFS3 | - | The system filter admittance of the 3th harmonic |
| YT3 | - | The network filter admittance |
| V3 | - | The 3th harmonic voltage |
| I1 | - | The fundamental frequency current |
| I3 | - | The 3th harmonic current |